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ARMY ELECTRONICS RESEARCH AND DEVELOPMENT COMMAND WS--ETC F/G 4/2
19317A MLRS MISSILE NUMBERS BC-050 AND BC-057 THRU BC-067 ROUND--ETC(U)
FEB 82 D C KELLER

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DR 1221
FEB 1982

METEOROLOGICAL DATA REPORT
19317A MLRS
Missile Numbers BC-050 and BC-057 Thru BC-067
Round Numbers V-213/MD-67 Thru V-223/MD-77
10 Feb 82

by

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ATMOSPHERIC SCIENCES LABORATORY
WHITE SANDS MISSILE RANGE, NEW MEXICO

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UNITED STATES ARMY ELECTRONICS COMMAND

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Meteorological data gathered for the launching of the BC-050 and BC-057 Thru BC-067, Round Number V-213/MD67 Thru V-223/MD-77 presented in tabular form.		

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INTRODUCTION

19317A MLRS, Missile Numbers BC-50 and BC-057 thru BC-067, Round Numbers V-213/MD-67 thru V-224/MD-78, were launched from Miracle Site, White Sands Missile Range (WSMR), New Mexico, at 1120 thru 1120:57 MST, 10 Feb 1982. The scheduled launch times were 1100 thru 1100:49.5 MST.

DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

1. Observations

a. Surface

(1) Standard surface observations to include pressure, temperature ($^{\circ}$ C), relative humidity, dew point ($^{\circ}$ C), density (gm/m³), wind direction and speed, and cloud cover were made at the Miracle Met Site at T-0 minutes.

(2) Monitor of wind speed and direction from one anemometer was provided in the launch control room.

b. Upper Air

(1) Low level wind data were obtained from single theodolite pilot-balloon observations at:

SITE AND ALTITUDE

Miracle	2 Km
Sotim 3	2 Km

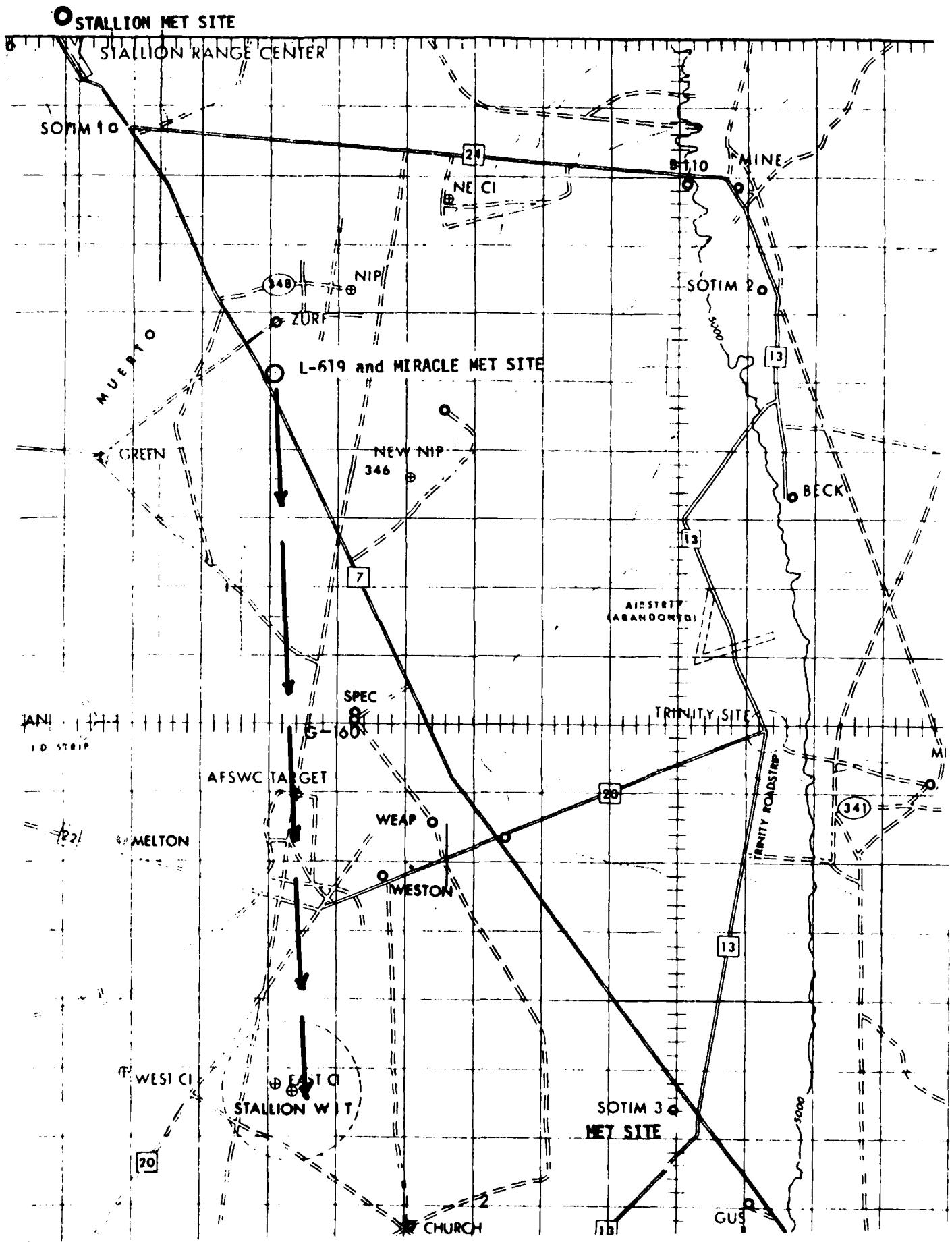
(2) Air structure data (rawinsonde) were collected at the following Met Sites.

SITE AND TIME

Sotim 3	0800 MST
Stallion	0930 MST
Stallion	1000 MST
Sotim 3	1120 MST

Accession For	
NTIS	GRA&I
DTIC TAB	<input type="checkbox"/>
Unannounced	<input type="checkbox"/>
Justification	
By _____	
Distribution/ _____	
Availability Codes	
Dist	Avail and/or Special
A	





PROJECT SURFACE OBSERVATION

TABLE I

TABLE 1		STATION <u>Miracle</u>		X= <u> </u>		Y= <u> </u>		H= <u> </u>	
				WIND		CHARACTER		VISIBIL- ITY	
				DIRECTION deg Tn	SPEED kts	kts			
DATE	DAY	MONTH	YEAR						
<u>10</u>		<u>Feb</u>	<u>82</u>						
TIME	PRESSURE mb	TEMPERATURE OF °C	DEW POINT OF °C	RELATIVE HUMIDITY %	DENSITY gm/m ³				
M S I									
1120	852.3		11.1	0.3	47	1040	350	02	50

Miracle Station

DATE	DAY	MONTH	YEAR	X =	Y =	H =			
TIME	PRESSURE mb	TEMPERATURE °C	DEW POINT °C	RELATIVE HUMIDITY %	DENSITY gm/m ³	WIND DIRECTION deg	WIND SPEED kts	CHARACTER kts	VISIBIL- ITY
1120	852.3	11.1	0.3	47.	1040	350	02		50

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PSYCHOMETRIC COMPUTATION

ESTIMATED CONDITIONS	
TIME:	MST
DRY BULB TEMP.	11.1
WET BULB TEMP.	5.8
WET BULB DEPR.	5.3
DEW POINT	0.3
RELATIVE HUMID.	47

TABLE 2

T-TIME PILOT-BALLOON MEASURED WIND DATA
 DATE 10 Feb 1982

SITE: Miracle
 TIME: 1120 MST
 WSTM COORDINATES:
 X= 420,576.31
 Y= 675,956.28
 H= 4,778.13

SITE: Sotim 3
 TIME: 1120 MST
 WSTM COORDINATES:
 X= 451,408.42
 Y= 627,063.23
 H= 4,848.11

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS	LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	350	02	SURFACE	110	06
150	228	02	150	269	04
210	216	03	210	270	06
270	212	04	270	262	06
330	208	04	330	256	06
390	207	05	390	254	06
500	207	06	500	249	05
650	212	07	650	283	04
800	212	07	800	280	05
950	240	07	950	251	06
1150	246	09	1150	263	12
1350	241	11	1350	280	15
1550	259	13	1550	292	20
1750	264	14	1750	290	28
2000	275	18	2000	277	30

All data obtained from single theodolite tracked pilot-balloon observations.

TABLE 3

AIMING AND T-TIME COMPUTER MET MESSAGES

10 February 1982

SOTIM 3 0800 MST

METCM1336065

101500148849

00293006 27980849

01258007 27880839

02403007 27720814

03449014 27430744

04485020 27060727

05499021 26690683

06512037 26590640

07502042 26340600

08494048 26100563

09489054 25770527

STALLION 0930 MST

METCM1338067

10165051846

00000000 27650846

01262004 27880836

02230003 27650810

03460008 27440771

04510018 27120724

05520024 26730680

06502036 26610638

07497041 26430598

STALLION 1000 MST

METCM1338067

101700151847

00000000 28180847

01117001 27950837

02186002 27670811

13412004 27300772

04534013 27000725

05517020 26650680

06505040 26510638

SOTIM 3 1120 MST

METCM1336065

101830148851

00196006 2853851

01416007 2829841

02532007 2799816

13484010 2762777

04509014 2718730

05505025 2685685

06503036 2670643

07502042 2634603

08486047 2608565

09476050 2594529

STATION ALTITUDE 4847.49 FEET MSL
IN FEET. 02
ASSEMBLION NO. 2

SIGNIFICANT LEVEL DATA
041042000_c
SOTIN 3

TABLE 4

GEODETIC COORDINATES
33°00'14.6" LAT LG
106°49'30.7" LONG LG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE METERS MSL FEET	TEMPERATURE DEGREES CENTIGRADE	AIR DEWPOINT DEGREES CENTIGRADE	KELVIN PERCENT
849.2	4947.5	5.7	-4	79.0
543.3	5034.7	4.9	-1.3	64.0
023.5	5670.8	4.1	-2.5	62.0
774.9	7286.8	.7	-4.5	68.0
700.0	9940.9	-5.4	-6.6	91.0
680.9	10652.6	-7.3	-8.4	92.0
653.1	11720.2	-7.7	-8.9	91.0
635.3	12428.0	-7.2	-11.7	70.0
597.2	14003.7	-10.5	-13.3	50.0
565.7	15371.6	-12.0	-16.8	57.0
532.3	16894.5	-15.0	-18.6	74.0
500.0	18441.1	-18.6	-25.6	54.0
491.3	18870.9	-19.4	-29.6	39.0
467.3	20091.5	-21.0	-35.0	27.0
443.4	21363.4	-22.4	-37.0	25.0
400.0	23825.1	-27.9	-42.1	24.0

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STATION ALTITUDE 4847.49 FEET MSL
10 FEB. 62
ASCENSION NO. 2

UPPER AIR DATA
04104200Z
SOTIN 3

TABLE 5

UTDUDLIC COORDINATES,
53°.0146 LAT LEG
106.49307 LON LEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CELSIUS	TEMPERATURE WATERPOINT DEGREE	REL.HUM. PERCENT	DENSITY GM/CURIL METER	SPEED OF SOUND KNOTS	SPEED OF WIND KNOTS	INDEX OF IN	INDEX OF SPHEO KNOTS	INDEX OF REFRACTION,
4847.5	849.2	5.7	2.4	70.0	1057.5	651.0	105.0	0.0	0.0	1.00021
5000.0	844.4	5.0	-0.6	66.8	1054.6	650.0	174.4	5.7	1.000204	
5500.0	826.8	4.3	-2.2	62.5	1036.1	649.7	<0.0	5.9	1.000257	
6000.0	813.4	3.4	-2.9	63.2	1022.2	648.0	20.1	7.6	1.000252	
6500.0	796.2	2.4	-3.5	65.1	1007.0	647.4	243.7	10.1	1.000248	
7000.0	785.3	1.3	-4.1	66.9	992.1	646.1	221.0	12.3	1.000244	
7500.0	766.6	0.2	-4.6	69.8	977.4	644.6	200.0	13.4	1.000240	
8000.0	754.0	-0.9	-4.9	74.2	962.9	643.4	201.0	14.5	1.000236	
8500.0	739.7	-2.1	-5.3	78.5	948.7	642.1	204.7	15.5	1.000233	
9000.0	725.7	-3.2	-5.7	82.8	934.7	640.7	207.9	16.5	1.000229	
9500.0	711.9	-4.4	-6.2	87.2	920.9	639.3	212.9	18.5	1.000225	
10000.0	696.4	-5.6	-6.8	91.1	907.4	637.9	217.0	21.0	1.000222	
10500.0	685.0	-6.9	-8.0	91.8	894.5	636.5	201.9	24.2	1.000217	
11000.0	671.7	-7.4	-8.5	91.7	879.1	635.0	205.0	28.2	1.000213	
11500.0	656.7	-7.6	-8.8	91.2	862.7	635.4	207.4	32.1	1.000209	
12000.0	646.0	-7.5	-9.9	82.7	845.7	635.5	207.7	35.8	1.000204	
12500.0	633.5	-7.4	-11.8	70.5	829.1	635.0	206.9	38.7	1.000198	
13000.0	621.2	-8.4	-12.2	73.6	816.2	634.4	205.4	40.7	1.000195	
13500.0	609.1	-9.4	-12.7	76.8	803.5	633.1	205.0	41.1	1.000191	
14000.0	597.3	-10.5	-13.3	80.0	791.1	631.8	201.3	40.8	1.000188	
14500.0	585.6	-11.0	-15.1	71.7	777.3	631.5	209.9	42.3	1.000184	
15000.0	574.1	-11.6	-17.1	63.2	763.8	630.4	208.5	44.3	1.000179	
15500.0	562.8	-12.3	-19.7	58.4	750.8	629.0	217.4	47.4	1.000175	
16000.0	551.7	-13.2	-18.6	64.0	738.7	628.4	216.5	50.5	1.000172	
16500.0	540.8	-14.2	-18.5	69.6	726.6	627.2	215.7	51.3	1.000170	
17000.0	530.0	-15.2	-19.0	72.6	715.3	625.9	215.1	52.1	1.000167	
17500.0	519.4	-16.4	-21.2	66.2	704.2	624.0	214.9	53.5	1.000163	
18000.0	509.0	-17.6	-23.5	59.7	693.3	623.0	215.7	54.1	1.000160	
18500.0	498.8	-18.7	-26.1	51.9	682.6	621.0	217.6	53.8	1.000156	
19000.0	486.7	-19.6	-30.3	37.7	671.1	620.0	219.9	54.0	1.000152	
19500.0	476.8	-20.2	-32.3	32.8	659.2	619.7	212.0	54.7	1.000149	
20000.0	469.1	-20.9	-34.5	27.9	647.0	616.6	201.7	58.5	1.000146	
20500.0	459.5	-21.4	-35.6	26.4	635.8	616.1	200.4	63.1	1.000143	
21000.0	450.1	-22.0	-36.4	25.6	624.6	617.0	200.1	66.0	1.000141	
21500.0	440.9	-22.7	-37.3	24.9	615.1	616.6	219.4	68.9	1.000138	
22000.0	431.7	-23.8	-38.3	24.7	603.1	615.2	219.0	70.3	1.000136	
22500.0	424.8	-24.9	-39.4	24.5	593.5	615.5	213.5	70.3	1.000135	
23000.0	414.1	-26.1	-40.4	24.3	583.7	612.4	211.0	70.3	1.000131	
23500.0	405.5	-27.2	-41.5	24.1	574.2	611.0	211.0	70.3	1.000129	

STATION ALTITUDE 4847.49 FEET SL
10 FT. C2 080° HRS MST
ASCENSION NO. 2

MARITIMORY LAT. LLS
0+10420002

SOTH

WIND DIRECTIONS
33.00140 LAT LLS
106.49307 LONG DEG

TABLE 6

PRESSURE GRADIENT MILLIBARS	TEMPERATURE FEET	AIR DEGREES	WIND DF POINT CENTIGRAVE	WIND DIR. CENTIGRAVE	WIND DIR. LLG " Or TH	WIND DIR. LLG " Or TH KNOTS	SPEED KNOTS
800.0	6438.	2.5	-3.4	65.	242.4	4.8	
750.0	8140.	-1.3	-5.0	75.	262.1	14.8	
700.0	9932.	-5.4	-6.0	91.	277.1	24.7	
650.0	11831.	-7.6	-9.3	87.	287.0	34.6	
600.0	13871.	-10.3	-13.1	79.	282.0	40.9	
550.0	16059.	-13.4	-18.6	65.	276.4	50.7	
500.0	18417.	-18.6	-25.6	54.	277.5	53.8	
450.0	20977.	-22.0	-36.4	20.	280.1	60.0	
400.0	23788.	-27.9	-42.1	24.			

STATION ALTITUDE 4440.00 FEET MSL
10°F LB. 52' MSL
ASCENSION NO. 4

SIGNIFICANT LEVEL DATA
0410040004,
STATION.

GEODETIC COORDINATES
53°01'920 LAT UEG
106°06'501 LONG UEG

TABLE 7

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE M.S.L. F.E.T	TEMPERATURE AIR DEGREES CENTIGRADE	HUMIDITY PERCENT
845.9	4940.0	3.2	83.0
845.5	4952.6	4.9	75.0
838.7	5168.8	4.0	60.0
793.4	6647.0	2.0	63.3
766.0	7576.5	.3	71.0
720.6	9178.3	-2.8	80.0
700.0	9931.4	-4.9	86.0
673.3	10733.0	-7.1	92.0
550.8	11803.8	-7.8	91.0
445.5	12013.3	-7.0	62.0
633.6	12490.5	-7.2	61.0
605.7	13641.3	-8.8	65.0
591.6	14240.3	-9.7	55.0
583.0	14611.9	-9.9	40.0
575.0	14962.0	-10.3	30.0
564.4	15432.1	-11.5	39.0
540.1	16538.1	-13.0	18.0
526.4	17179.7	-14.8	20.0
500.0	18454.5	-17.1	17.0
441.4	21496.9	-22.5	14.0
410.5	23239.5	-25.4	13.0
400.0	23855.6	-27.4	13.0

STATION ALTITUDE 4940.0 FEET .SL
10 FEB. 02 0930 IRS NSI
ASCENSION NO. 4

DEPTL. AIR DATA
0110040004
STABILITY

TABLE 8

STATION COORDINATES
53.01.920 LAT LTG
106.0501 LON LTG

SEASIDE ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE A.I.R. DEGREE CELSIUS	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF WIND KNOTS	REL.HUM. OF JUN. 1940	REL.HUM. OF JULY 1940	REL.HUM. OF IN NOV.	REL.HUM. OF DECEMBER 1940	REL.HUM. OF JANUARY 1941	REL.HUM. OF FEBRUARY 1941
4940.0	843.9	3.2	•6	83.0	1063.3	648.0	•0	•0	1.000209	•1	1.000203
5000.0	844.0	4.7	•0	71.7	1055.3	650.5	2<0.4	2<0.4	•4	•4	1.000206
5000.0	828.3	3.0	-3.1	61.8	1040.5	649.0	2<0.4	2<0.4	1.7	1.000202	220.4
5000.0	812.9	2.9	-3.1	64.5	1025.7	648.0	2<0.4	2<0.4	2.5	1.000204	240.4
5000.0	797.8	2.2	-3.2	67.0	1007.0	647.0	2<0.4	2<0.4	4.7	1.000204	244.0
7000.0	782.9	1.4	-3.7	69.1	991.3	646.0	2<1.0	2<1.0	6.2	1.000204	248.0
7500.0	760.2	•4	-4.2	70.8	970.0	645.1	2<4.5	2<4.5	11.7	1.000206	256.0
8000.0	753.7	-5.5	-4.7	73.4	961.0	644.0	2<4.5	2<4.5	15.2	1.000206	258.0
8500.0	739.5	-1.5	-5.1	76.2	940.3	642.0	2<0.5	2<0.5	17.9	1.000206	262.0
9000.0	725.5	-2.5	-5.6	79.0	931.7	641.0	2<0.5	2<0.5	20.3	1.000206	265.0
9500.0	711.7	-3.7	-6.2	82.6	918.3	640.1	2<0.5	2<0.5	22.3	1.000206	268.0
10000.0	690.1	-5.1	-7.0	86.4	905.4	639.5	2<1.0	2<1.0	24.8	1.000207	271.0
10500.0	684.7	-6.1	-7.6	89.4	891.7	637.2	2<0.4	2<0.4	27.5	1.000207	275.0
11000.0	671.5	-7.2	-8.2	91.9	877.9	636.0	2<0.4	2<0.4	30.7	1.000207	279.0
11500.0	658.6	-7.6	-3.7	91.3	862.2	635.0	2<0.0	2<0.0	34.0	1.000207	284.0
12000.0	645.8	-7.1	-9.5	82.6	844.0	630.1	2<0.0	2<0.0	36.8	1.000207	287.0
12500.0	633.4	-7.2	-13.4	61.0	820.6	635.7	2<0.0	2<0.0	39.3	1.000207	291.0
13000.0	621.1	-7.9	-13.9	61.9	814.7	634.9	2<0.4	2<0.4	40.1	1.000207	295.0
13500.0	609.1	-8.6	-14.4	62.8	801.0	634.0	2<0.0	2<0.0	39.8	1.000207	299.0
14000.0	597.2	-9.3	-16.0	58.2	787.8	635.1	2<7.0	2<7.0	39.3	1.000207	303.0
14500.0	585.6	-9.8	-19.6	44.5	774.1	632.4	2<0.7	2<0.7	39.3	1.000207	307.0
15000.0	574.1	-10.4	-24.3	30.7	760.6	631.7	2<0.1	2<0.1	38.6	1.000207	311.0
15500.0	562.9	-11.6	-23.1	37.7	749.2	630.3	2<5.0	2<5.0	40.6	1.000207	315.0
16000.0	551.8	-12.3	-26.9	29.2	736.5	629.4	2<7.0	2<7.0	42.9	1.000208	319.0
16500.0	540.9	-12.9	-31.8	18.7	724.0	626.5	2<4.4	2<4.4	44.4	1.000208	323.0
17000.0	530.2	-14.3	-29.3	26.6	713.3	626.9	2<3.1	2<3.1	46.0	1.000208	327.0
17500.0	519.6	-15.4	-30.2	26.7	702.0	625.0	2<4.0	2<4.0	47.9	1.000208	331.0
18000.0	509.3	-16.3	-33.1	21.6	690.5	624.5	2<5.9	2<5.9	49.6	1.000208	335.0
18500.0	499.1	-17.2	-36.3	17.0	679.1	623.4	2<8.0	2<8.0	51.4	1.000208	339.0
19000.0	488.9	-18.1	-37.4	16.5	667.0	622.3	2<0.9	2<0.9	53.1	1.000208	343.0
19500.0	479.0	-19.0	-39.4	16.0	656.4	621.2	2<1.5	2<1.5	54.0	1.000208	347.0
20000.0	469.3	-19.8	-39.4	15.5	645.3	620.1	2<2.0	2<2.0	55.4	1.000208	351.0
20500.0	459.8	-20.7	-40.5	15.0	634.5	619.0	2<1.4	2<1.4	59.2	1.000208	355.0
21000.0	450.5	-21.6	-41.5	14.5	623.0	617.9	2<0.9	2<0.9	62.9	1.000208	359.0
21500.0	441.3	-22.5	-42.6	14.0	613.3	610.0	2<0.4	2<0.4	63.6	1.000208	363.0
22000.0	432.2	-23.3	-43.4	13.7	602.7	612.0	2<0.9	2<0.9	64.3	1.000208	367.0
22500.0	423.5	-24.2	-44.3	13.4	592.3	614.0	2<1.7	2<1.7	65.0	1.000208	371.0
23000.0	414.6	-25.0	-45.2	13.1	582.0	615.7	2<2.0	2<2.0	65.7	1.000208	375.0
23500.0	405.0	-26.2	-46.3	13.0	572.0	616.0	2<2.0	2<2.0	66.4	1.000208	379.0

STATION ALTITUDE 4940.00 FEET : SL
10 FEB. 62 0935 HRS NO. 4
ASSEMBLY NO.

MANUFACTORY LEVEL
0410040004
STATION
TABLE 9

STATION CONDENSATE
33.0000 LAT 36.00
106.0000 LON. E

PRESSURE (GL)DYNAMIC	POTENTIAL	TEMPERATURE	WIND DIRECTION	WIND VELOCITY	DATA
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	LEADERS	IN KNOTS	
800.0	6425.	2.3	-3.2	0/.	220.4 .4
750.0	6126.	-7.8	-4.0	74.	270.5 12.7
700.0	9923.	-4.9	-6.9	66.	291.0 22.0
650.0	11624.	-7.7	-9.1	90.	265.4 32.9
600.0	13868.	-9.2	-15.5	0/.	277.8 39.9
550.0	16064.	-12.4	-27.0	27.	275.3 40.1
500.0	18431.	-17.1	-36.2	17.	270.5 51.3
450.0	21001.	-21.7	-41.6	14.	280.8 62.9
400.0	23819.	-27.4	-47.3	15.	

STATION ALTITUDE 4940.00 FEET MSL
10 FEB. 82 1000 HRS MST
ASCENSION NO. 5

SIGNIFICANT LEVEL DATA
0410040005
STALLION

TABLE 10

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEPOINT DEGREES CENTIGRAVE	REL.HUM. PERCENT
846.9	4940.0	7.5	82.0
841.4	5116.0	6.1	51.0
776.4	7254.1	-6	69.0
740.2	8505.4	-2.0	-5.6
700.0	9954.4	-6.0	-6.9
661.2	11417.7	-8.0	-9.1
642.8	12139.3	-7.8	-12.5
617.2	13175.5	-9.4	-14.7
597.3	14006.2	-10.9	65.0
583.2	14608.8	-11.8	-14.4
550.2	16072.5	-12.8	75.0
518.0	17575.7	-16.0	-23.2
500.0	18450.6	-16.7	38.0
494.6	18718.9	-16.7	-25.7
434.0	21898.5	-24.6	33.0
419.6	22705.8	-25.1	-29.9
400.0	23843.7	-27.5	29.0
		-32.9	23.0
		-33.8	21.0
		-39.3	24.0
		-41.0	21.0
		-43.0	21.0

GEODETIC COORDINATES
33.81920 LAT DEG
106.06501 LON DEG

STATION ALTITUDE 4940.00 FEET MSL
10 FEB. 82 1000 HRS MST
ASCENSION NO. 5

UPPER AIR DATA
0410040005
STALLION
TABLE 11

GEOGRAPHIC COORDINATES
33.81920 LAT DEG
106.66501 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SOUND SPEED KNOTS	WIND DATA		INDEX OF REFRACTION
						WIND DIRECTION DEGREES(TIN)	SPEED KNOTS	
4940.0	846.9	7.5	4.6	82.0	1047.2	653.9	.0	1.000274
5000.0	845.0	7.0	2.2	71.4	1047.3	653.1	.1	1.000268
5500.0	829.3	4.9	-3.6	54.2	1036.9	650.3	.6	1.000254
6000.0	813.9	3.3	-4.0	58.4	1023.3	648.5	1.1	1.000250
6500.0	798.7	1.8	-4.6	62.7	1010.1	646.6	1.5	1.000247
7000.0	785.9	.2	-5.2	66.9	997.0	644.7	2.0	1.000243
7500.0	769.1	-.9	-5.6	70.4	982.1	643.5	203.7	1.000239
8000.0	754.6	-1.4	-5.6	73.2	965.5	642.8	281.7	1.000236
8500.0	740.4	-2.0	-5.6	76.0	949.2	642.2	291.4	1.000232
9000.0	726.2	-3.4	-6.0	81.8	935.9	640.5	295.6	1.000229
9500.0	712.4	-4.7	-6.5	87.7	922.7	638.9	294.4	14.7
10000.0	698.8	-6.1	-7.0	93.0	909.6	637.3	293.4	16.5
10500.0	685.3	-6.7	-7.7	92.6	894.4	636.5	291.5	20.4
11000.0	672.1	-7.4	-8.5	92.3	879.5	635.6	290.2	24.2
11500.0	659.1	-8.0	-9.4	89.4	864.4	634.9	287.4	29.8
12000.0	646.3	-7.8	-11.7	73.4	847.4	635.0	265.4	35.5
12500.0	633.8	-8.4	-13.3	67.6	832.7	634.4	283.4	38.5
13000.0	621.5	-9.1	-14.3	65.7	819.0	633.4	281.6	41.0
13500.0	609.3	-10.0	-14.6	68.9	805.6	632.4	280.6	39.2
14000.0	597.4	-10.9	-14.4	74.9	792.6	631.3	279.4	37.7
14500.0	585.7	-11.6	-21.2	44.7	779.7	630.2	277.6	37.9
15000.0	574.2	-12.1	-23.8	36.7	765.7	629.7	276.5	38.8
15500.0	562.9	-12.4	-24.7	35.0	751.6	629.2	275.6	41.6
16000.0	551.6	-12.8	-25.5	33.2	737.8	628.8	275.2	43.7
16500.0	540.6	-13.7	-26.8	31.9	725.9	627.6	274.7	44.2
17000.0	530.1	-14.8	-28.2	30.5	714.4	626.3	274.6	44.7
17500.0	519.6	-15.8	-29.7	29.2	703.2	625.0	275.5	45.0
18000.0	509.2	-16.3	-31.3	26.1	690.5	624.4	276.6	47.0
18500.0	499.0	-16.7	-33.0	22.6	677.7	624.0	218.0	51.1
19000.0	488.9	-17.4	-34.5	21.3	665.8	623.1	279.6	53.4
19500.0	479.0	-18.6	-35.1	21.7	655.4	621.6	280.9	54.0
20000.0	469.2	-19.9	-36.0	22.2	645.3	620.1	281.2	53.1
20500.0	459.7	-21.1	-36.8	22.7	635.3	619.5	281.0	51.3
21000.0	450.3	-22.4	-37.7	23.2	625.4	617.0	279.2	52.3
21500.0	441.2	-23.6	-38.6	23.6	615.8	615.5	276.6	55.1
22000.0	432.2	-24.7	-39.5	23.6	605.8	614.2	274.3	58.5
22500.0	423.2	-25.0	-40.5	21.8	594.0	613.8	271.8	62.1
23000.0	414.4	-25.7	-41.5	21.0	583.4	612.8	21.0	1.000131
23500.0	405.8	-26.8	-42.4	21.0	573.7	611.5	1.000129	

STATION ALTITUDE 4940.00 FEET MSL
10 FEB. 82 1000 HRS MST
ASCENSION NO. 5

MANDATORY LEVELS
0410040005
STALLION
TABLE 12

GEODETIC COORDINATES
33.61920 LAT DEG
106.66501 LON DEG

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE DEGREES	AIR DEWPONT CENTIGRADE	R.H. PERCENT	WIND DATA DIRECTION (DEGREES ITN)	SPEED KNOTS
800.0	6459.	1.9	-4.5	62.	218.0	1.5
750.0	8155.	-1.6	-5.6	74.	285.7	7.6
700.0	9946.	-6.0	-6.9	95.	293.5	16.3
650.0	11843.	-7.9	-11.0	78.	286.0	33.8
600.0	13878.	-10.7	-14.5	74.	279.7	37.7
550.0	16063.	-12.8	-25.7	33.	275.2	45.8
500.0	18427.	-16.7	-32.9	23.	278.3	50.6
450.0	20999.	-22.4	-37.7	23.	279.1	52.4
400.0	23608.	-27.5	-43.0	21.		

STATION ALTITUDE 4847.49 FFEI MSL
10 FEB. 1923 1120 HRS MDT
ASCENSION NO. 3

SIGNIFICANT LEVEL DATA
0410420000
SOTIN 3

GEOMETRIC COORDINATES
33°0.0140 LAT LEG
106°49.507 LONG LEG

TABLE 13

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	RELATIVE HUMIDITY PERCENT
651.0	4847.5	12.1	55.0
647.9	4947.5	9.8	56.0
637.4	6271.3	5.1	55.0
709.0	10033.2	-4.7	56.0
683.2	11254.3	-5.8	56.0
642.8	12232.4	-6.2	56.0
615.6	13340.2	-8.5	56.0
576.7	14990.3	-13.3	56.0
570.4	15265.3	-13.5	57.0
561.0	15655.6	-11.5	56.0
516.0	18067.3	-15.4	55.0
500.0	18558.7	-15.8	53.0
429.2	22283.9	-24.1	32.0
400.0	23963.8	-27.4	32.0

STATION ALTITUDE 4847.49 FFF1 SL
10 RTB. C2 1120 IRS MSI
ASSTN NO. 3

UPPER AIR DATA
0410020003
SOTIN 3
TABLE 14

USEFUL COORDINATES
33.00146 LAT UTG
106.49307 LONG UTG

GEOMETRIC ALTITUDE IN FEET	PRESSURE IN MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	DEWPOINT UTDPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GR/SECUL METER	STATE OF WIND KNOTS OR HEADING	INDEX OF REFRACTION
4847.5	851.0	12.1	2.8	53.0	1035.8	059.1	1.000206
5000.0	840.3	9.6	-3.8	38.6	1040.4	056.0	5.3
5500.0	930.0	7.8	-3.6	44.3	1027.8	053.7	2.9
6000.0	810.5	6.1	-3.6	49.9	1015.3	051.7	1.2
6500.0	800.4	4.5	-3.7	55.1	1002.1	049.9	327.7
7000.0	780.4	3.2	-3.8	59.8	987.9	046.3	315.2
7500.0	770.6	1.9	-4.1	64.4	973.9	040.0	282.9
8000.0	750.1	.6	-4.4	69.1	960.1	045.3	264.3
8500.0	741.9	-7	-4.8	73.7	946.6	045.7	255.6
9000.0	726.0	-2.0	-5.3	78.4	933.3	042.2	230.1
9500.0	714.3	-3.3	-5.8	83.0	920.2	040.6	205.9
10000.0	700.9	-4.6	-6.3	87.7	907.4	039.1	205.0
10500.0	687.5	-5.1	-6.8	88.8	891.7	038.4	203.1
11000.0	674.3	-5.6	-7.2	88.0	876.2	037.9	201.1
11500.0	661.3	-5.9	-8.5	81.6	860.5	037.5	201.0
12000.0	649.0	-6.1	-10.7	69.6	844.8	037.1	16.2
12500.0	636.1	-6.8	-12.0	65.9	830.7	036.3	1.000226
13000.0	623.8	-7.8	-12.4	69.5	817.6	036.3	1.000222
13500.0	611.7	-9.0	-12.6	73.5	805.5	035.7	1.000218
14000.0	599.7	-10.4	-13.4	78.4	794.1	031.9	201.1
14500.0	586.0	-11.9	-14.1	83.2	783.0	030.1	34.6
15000.0	576.5	-13.3	-15.0	87.3	771.9	028.4	283.5
15500.0	565.1	-12.3	-20.9	48.4	754.1	029.4	37.1
16000.0	553.9	-12.1	-21.1	35.9	735.7	029.7	39.4
16500.0	542.0	-12.9	-24.9	35.6	726.3	028.7	42.0
17000.0	532.2	-13.7	-25.7	35.4	714.2	027.7	207.5
17500.0	521.7	-14.5	-26.4	35.2	702.2	026.7	44.1
18000.0	511.4	-15.3	-27.2	35.0	690.5	025.7	207.6
18500.0	501.2	-15.8	-28.2	33.2	678.0	025.2	44.8
19000.0	491.0	-16.8	-29.2	32.9	667.0	023.9	48.1
19500.0	481.1	-17.9	-30.3	32.7	656.3	022.5	207.8
20000.0	471.3	-19.0	-31.3	32.6	645.6	021.2	44.8
20500.0	461.8	-20.1	-32.3	32.5	635.5	019.8	217.0
21000.0	152.4	-21.2	-33.4	32.3	625.4	018.4	50.6
21500.0	440.2	-22.4	-34.4	32.2	615.5	017.0	51.5
22000.0	434.2	-23.5	-35.4	32.1	605.7	015.7	52.2
22500.0	425.5	-24.5	-36.4	32.0	595.6	014.4	53.9
23000.0	410.5	-25.5	-37.3	32.0	585.8	013.1	54.5
23500.0	407.9	-26.5	-38.2	32.0	575.9	011.9	55.2

STATION ALTITUDE 4847.49 FEET MSL
REF. N2 112° 11' 51"
ASCHLASSION NO. 3

MANDATORY LETTERS
0410420003
SOTIN J
TABLE 15

UTODILL COONDAWILLS
33.00146 LAT LG
116.49307 LON DEG

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE			REL.HUM. PERCENT	D.P. IN. MM	WIND SPD IN KNOTS
		AIR DEGREES	DEWPOINT CENTIGRADE	PERCENT			
850.0	4877.	11.4	-8	46.	109.7	0.9	
800.0	6513.	4.5	-3.7	55.	327.0	0.8	
750.0	8225.	0	-4.6	71.	285.5	12.9	
700.0	10024.	-4.7	-6.4	88.	265.6	<0.1	
650.0	11934.	-6.1	-10.5	71.	262.3	34.3	
600.0	13978.	-10.4	-13.4	78.	282.0	43.0	
550.0	16162.	-12.3	-24.4	30.	269.1	47.0	
500.0	18535.	-15.8	-28.3	33.	273.7	51.0	
450.0	21112.	-21.5	-33.6	32.	267.3	55.0	
400.0	23927.	-27.4	-39.0	32.			

